REMARKS

Upon entry of this amendment, claims 2-8, 10, 12-14 and 16-18 are all the claims pending in the application. Claim 9 is canceled by this amendment.

I. Claim Rejections under 35 U.S.C. § 103(a)

The Examiner has rejected claims 2-10, 12-14 and 16-18 under 35 U.S.C. § 103(a) as being unpatentable over Zhodzishsky et al. (U.S. 6,219,376) in view of Jagger et al. (U.S. 6,807,405).

A. Claims 2, 3 and 8

Claim 2, as amended, recites the feature of an input-signal control circuit operable to restrict an effective word length of a digital value of respective input signals in order to set the wide-band signals and the interference signals having comparatively low levels to the quantization-noise levels or lower. Applicants respectfully submit that the combination of the cited prior art fails to teach or suggest such a feature.

Regarding Zhodzishsky, Applicants note that this reference discloses methods for suppressing a narrow-band interference signal utilizing adjustment loops, wherein a first method is based on filtration of in-phase and quadrature components of an error vector, and a second method is based on filtration of the amplitude and full phase of the interference signal (see Abstract).

Applicants respectfully submit, however, that while Zhodzishsky discloses the ability to suppress a narrow-band interference signal using adjustment loops, Zhodzishsky does not disclose or suggest the feature of an input-signal control circuit operable to restrict an effective

word length of a digital value of respective input signals in order to set the wide-band signals and the interference signals having comparatively low levels to the quantization-noise levels or lower, as recited in amended claim 2.

Regarding Jagger, Applicants note that this reference discloses a method for suppressing a narrow band interference signal by utilizing a notch filter (see col. 2, lines 43-46). In particular, Jagger discloses the use of an adaptive notch filter, wherein the adaptive notch filter detects narrow band interference signals above a certain threshold, and then automatically suppresses the interference signals by placing a rejection notch at the frequency of the interference signals (see col. 3, lines 44-51).

As indicated in Jagger, the interference signals can occur anywhere in the spread spectrum (SS) band, and therefore, it is desirable that the notch filter be adaptable so that the notch filter can be located at any frequency where the interference signal is located (see col. 6, lines 26-29).

Thus, while Jagger discloses the ability to suppress a narrow band interference signal by placing a rejection notch anywhere in the spread spectrum (SS) band at the frequency of the interference signal, in no way whatsoever does the placement of such a notch filter correspond to restricting the effective word length of a digital value of respective input signals in order to set wide-band signals and interference signals having comparatively low levels to the quantization-noise levels or lower, as recited in amended claim 2.

If the Examiner disagrees and believes that Jagger discloses such a feature, Applicants kindly request a detailed explanation from the Examiner as to how placing a notch filter at a

particular frequency along the spread spectrum (SS) band, as taught by Jagger, corresponds to restricting an effective word length of a digital value of respective input signals in order to set the wide-band signals and the interference signals having comparatively low levels to the quantization-noise levels or lower, as recited in amended claim 2.

In view of the foregoing, Applicants respectfully submit that the cited prior art fails to disclose, suggest or otherwise render obvious all of the features recited in claim 2. Accordingly, Applicants submit that claim 2 is patentable over the cited prior art, an indication of which is kindly requested. Claims 3 and 8 depend from claim 2 and are therefore considered patentable at least by virtue of their dependency.

B. Claims 4 and 5

Regarding claim 4, Applicants note this claim has been amended to recite the feature of an input signal control circuit operable to estimate levels of the interference signals included in the input signals in accordance with the input signals, generate pseudonoises in accordance with the estimation result and add the generated pseudonoises to the input signals in order to set the wide-band signals and the interference signals having comparatively low levels to the quantization-noise levels or lower. Applicants respectfully submit that the combination of Zhodzishsky and Jagger fails to teach or suggest at least this feature of claim 4.

As noted above, Zhodzishsky discloses methods for suppressing a narrow-band interference signal utilizing adjustment loops, wherein a first method is based on filtration of in-

phase and quadrature components of an error vector, and a second method is based on filtration of the amplitude and full phase of the interference signal (see Abstract).

Applicants respectfully submit, however, that while Zhodzishsky discloses the ability to suppress a narrow-band interference signal using adjustment loops, Zhodzishsky does not disclose or suggest the ability to estimate levels of the interference signals included in the input signals in accordance with the input signals, generate pseudonoises in accordance with the estimation result and add the generated pseudonoises to the input signals in order to set the wide-band signals and the interference signals having comparatively low levels to the quantization-noise levels or lower, as recited in amended claim 4.

Regarding Jagger, as noted above, this reference discloses a method for suppressing a narrow band interference signal by utilizing a notch filter, wherein an adaptive notch filter detects narrow band interference signals above a certain threshold, and then automatically suppresses the interference signals by placing a rejection notch at the frequency of the interference signals (see col. 3, lines 44-51).

Thus, while Jagger discloses the ability to suppress a narrow band interference signal by placing a rejection notch at the frequency of the interference signal, in no way whatsoever does Jagger disclose or suggest the ability to estimate levels of the interference signals included in the input signals in accordance with the input signals, generate pseudonoises in accordance with the estimation result and add the generated pseudonoises to the input signals in order to set the wide-band signals and the interference signals having comparatively low levels to the quantization-noise levels or lower, as recited in amended claim 4.

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In view of the foregoing, Applicants respectfully submit that the cited prior art fails to disclose, suggest or otherwise render obvious all of the features recited in claim 4. Accordingly, Applicants submit that claim 4 is patentable over the cited prior art, an indication of which is kindly requested. Claim 5 depends from claim 4 and is therefore considered patentable at least by virtue of its dependency.

C. Claims 6, 7 and 10

Regarding claim 6, Applicants note this claim has been amended to recite the feature of an input-signal control circuit operable to multiply the input signals by a control coefficient of less than 1 in order to set the wide-band signals and the interference signals having comparatively low levels to the quantization-noise levels or lower. Applicants respectfully submit that the combination of Zhodzishsky and Jagger fails to teach or suggest at least this feature of claim 6.

As noted above, Zhodzishsky discloses methods for suppressing a narrow-band interference signal utilizing adjustment loops, wherein a first method is based on filtration of in-phase and quadrature components of an error vector, and a second method is based on filtration of the amplitude and full phase of the interference signal (see Abstract).

Applicants respectfully submit, however, that while Zhodzishsky discloses the ability to suppress a narrow-band interference signal using adjustment loops, Zhodzishsky does not disclose or suggest the ability to multiply the input signals by a control coefficient of less than 1

in order to set the wide-band signals and the interference signals having comparatively low levels to the quantization-noise levels or lower, as recited in amended claim 6.

Regarding Jagger, as noted above, this reference discloses a method for suppressing a narrow band interference signal by utilizing a notch filter, wherein an adaptive notch filter detects narrow band interference signals above a certain threshold, and then automatically suppresses the interference signals by placing a rejection notch at the frequency of the interference signals (see col. 3, lines 44-51).

Thus, while Jagger discloses the ability to suppress a narrow band interference signal by placing a rejection notch at the frequency of the interference signal, in no way whatsoever does the placement of a notch filter correspond to multiplying the input signals by a control coefficient of less than 1 in order to set the wide-band signals and the interference signals having comparatively low levels to the quantization-noise levels or lower, as recited in amended claim 6.

If the Examiner disagrees and believes that Jagger discloses such a feature, Applicants kindly request a detailed explanation from the Examiner as to how placing a notch filter at a particular frequency along the spread spectrum (SS) band, as taught by Jagger, corresponds to multiplying the input signals by a control coefficient of less than 1 in order to set the wide-band signals and the interference signals having comparatively low levels to the quantization-noise levels or lower, as recited in amended claim 6.

In view of the foregoing, Applicants respectfully submit that the cited prior art fails to disclose, suggest or otherwise render obvious all of the features recited in claim 6. Accordingly, Applicants submit that claim 6 is patentable over the cited prior art, an indication of which is

kindly requested. Claims 7 and 10 depend from claim 6 and are therefore considered patentable at least by virtue of their dependency.

D. Claims 12 and 16

Regarding claims 12 and 16, Applicant submits that these claims are patentable for at least similar reasons as discussed above with respect to claim 2. In particular, Applicant submits that the combination of Zhodzishsky and Jagger fails to teach, suggest or otherwise render obvious the feature of an input-signal control circuit operable to restrict an effective word length of a digital value of respective input signals in order to set the wide-band signals and the interference signals having comparatively low levels to the quantization-noise levels or lower, as recited in claims 12 and 16. Accordingly, Applicant submits that claims 12 and 16 are patentable over the cited prior art, an indication of which is respectfully requested.

E. Claims 13 and 17

Regarding claims 13 and 17, Applicant submits that these claims are patentable for at least similar reasons as discussed above with respect to claim 4. In particular, Applicant submits that the combination of Zhodzishsky and Jagger fails to teach, suggest or otherwise render obvious the feature of an input-signal control circuit operable to estimate levels of the interference signals included in the input signals in accordance with the input signals, generate pseudonoises in accordance with the estimation result and add the generated pseudonoises to the input signals in order to set the wide-band signals and the interference signals having

comparatively low levels to the quantization-noise levels or lower, as recited in claims 13 and 17.

Accordingly, Applicant submits that claims 13 and 17 are patentable over the cited prior art, an indication of which is respectfully requested.

F. Claims 14 and 18

Regarding claims 14 and 18, Applicant submits that these claims are patentable for at least similar reasons as discussed above with respect to claim 6. In particular, Applicant submits that the combination of Zhodzishsky and Jagger fails to teach, suggest or otherwise render obvious the feature of an input-signal control circuit operable to multiply the input signals by a control coefficient of less than 1 in order to set the wide-band signals and the interference signals having comparatively low levels to the quantization-noise levels or lower, as recited in claims 14 and 18. Accordingly, Applicant submits that claims 14 and 18 are patentable over the cited prior art, an indication of which is respectfully requested.

II. Double Patenting Rejection

Claims 1-18 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 of co-pending Application No. 10/101,072 and claims 1-28 of co-pending Application No. 09/960,377. As this rejection is provisional, Applicant hereby requests that the rejection be held in abeyance. If the provisional double patenting rejection is the only remaining rejection in the application, Applicant will file a terminal disclaimer, if necessary, to overcome such a rejection.

III.   Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may best be resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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